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WHAT'S NEW

Wildfire offers voice recognition

Voice recognition technology has been hovering on the edge of the mainstream for over a year now, since the unveiling of the latest generation of speech input software from IBM, Dragon, and Lernout & Hauspie. In some parts of Canada, even of regular telephone services may have noticed the beginnings of voice recognition-based phone-directory systems, in the form of features

that can recognize caller specifying "you" or "me" or "English" or "French."

A more sophisticated interactive phone service called Wildfire has been unveiled in recent months in the Toronto, Vancouver and Calgary markets by Canada's Thinking Corp. This new Wildfire Electronic Assistant service is designed to allow business subscribers to "converse" interactively with an electronic assistant in much the same way

they would work with a human receptionist.

Wildfire recognizes a wide range of phrasing words and phrases and accurately responds to them in an appropriate way and offers advanced features such as voice mail and scheduling. The service also stores the caller's phone and can recognize specified voicemail callers. It also recognizes a wide range of user's commands and questions, and is optimized for cell phone users.

The company gave TCF a demonstration and we were impressed by the intuitive nature of the technology and the fact that it allowed hands-free operation, making it perfect for the mobile professional.

Wildfire is currently offered as a special service with a base price of \$30 per month, plus additional fees for special options and long-distance use. The technology is quite intriguing, and worth considering for anyone who conducts business on the go. —R. Thinking, Tel. 416-341-0000.

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Lexmark 5770 processes digital files
With Lexmark's ColorPhoto Jetprinter 5770, you can print images from a digital camera without being connected to a computer. The new printer includes an onboard



print processor, plus slots to accommodate both the CompactFlash and SmartMedia memory cards used by most digital cameras for image storage.

After snapping your digital pictures, you need only to take the memory card out of the camera, place it in the slot on the printer and press a single button. A simple menu system allows you to page through the images and do on-the-fly cropping.

Another innovative feature is the printer's support for JetDirect's parallel port. Zip drives, images stored on a Zip cartridge can be printed directly from the JetPrinter. As well, the printer has a utility that allows images to be transferred from memory cards directly into a blank Zip disk—without requiring a computer for the transfer.

Of course, the JetPrinter can be connected to a computer, where it functions like a photo-quality inkjet printer with print resolutions of up to 1,200x1,200 dots per inch (dpi). Estimated street price of the Photo JetPrinter 5770 is \$379—CIT.

Length: <http://www.lexmark.com/canada>

Continued on page 14

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Corrections

Change of address

In the article "Jayco offers a PEX in your server" in our February 1995 issue, we listed the company's old address. Its new address is:

Jayco Technologies Ltd.
103-1887 St. Lawrence
Vancouver B.C. V6L 1B2
Tel. 604-735-1842, Fax 604-735-8704
<http://www.jayco.com>

Did we say 2 GB? We meant 8 GB. In our January 1995 Report on high-end notebook computers, we listed the ThinkPad 770 as having a 2 GB hard drive. This notebook actually ships with an 8 GB hard drive.

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WHAT'S NEW

Continued from page 12

New models spruce up Toshiba line
Toshiba of Canada Information Systems Group has introduced four new models to its portable lineup, including two Tecra 4000 models with 346 MHz Pentium II power, better Portege and cheaper laptops.

The Satellite 3560CS marks a departure for Toshiba in that it uses a 300 MHz AMD

D5 processor. In contrast to the Intel processor used in the company's other models, Toshiba plans to sell this model through large office supply and computer retail stores. It includes 32 MB of RAM, an 8.9-inch LCD graphics controller, 6 GB hard drive, video/CD-ROM and 13-inch enhanced TFT screen. The unit, at 2 kg (4.4 lb), is reasonably light, and has an suggested retail price of \$1,299.

There are four new models in the Satellite 4000 series, topped off by the 4000COT with 344 MHz Pentium II processor, 14 1/2-inch TFT screen, 5.4 GB hard drive, 40 MB cache and 44 MB of RAM.

Late last year, Toshiba announced the upcoming 1.3 kg (2.9 lb) Portege 3000CT. The new 3000CT is in the same class, 2 cm (0.79 in.) rise, but now has a 300 MHz Pentium processor, 60 4-inch TFT screen and

4 GB hard drive to keep it humming. The slightly larger 1.9 kg (4.2 lb) Portege 3000CT also gets a break (excepting), and now a 440 MHz Pentium II processor and 13.3-inch TFT screen—\$1,079.

Toshiba of Canada: <http://www.toshiba.ca>

IBM launches handheld BlackBerry
IBM's 4860-200 (P3)—Research in Motion (RIM) has unveiled a wireless device known as the BlackBerry handheld.

As well as having an external case, the device has a 32,000-bit processor at its heart, 2 MB of RAM memory, and 8 user-level embedded system technology to operate.

Essentially, the unit opens a full keyboard and a 640 pixel resolution screen, along with email and calendar software. While it sounds like a personal digital assistant (PDA), RIM says it is actually designed to be wireless, and operates on a single AA alkaline battery.

According to IBM Executive, RIM's chief man, the BlackBerry, which uses IBM's paging technology, boasts significant processing power. "The frequent and discontinuous nature of email usage is driving the need for a wearable, personal device that can be constantly connected to the wireless network, while maintaining continuous to the user both a physical and mobile properties," he explained.

Despite its small size—4 1/2x 3 1/2x 1 1/2 in. (11.4x 9x 3.8 cm)—the BlackBerry has more than 15 million transistors, as well as an integrated text mail processor at its heart. Along with a liquid crystal display (LCD) screen, and sufficient storage to support multiple applications, the unit comes with a PC docking cradle and Windows desktop software.

The BlackBerry is expected to ship later this year at a price to be determined.

IBM: <http://ibm.com>

Have cyber designer want CorelDraw
Corel Corp. was quick to congratulate Luc Loyet, who submitted the winning design for the Euro Case. Loyet used the Ottawa company's CorelDraw software to design a series of cases, one of which was chosen for the new currency.

According to information supplied by Corel, Loyet is a computer engineer and logo designer who lives in Belgium.

CorelDraw itself passed a milestone—10 years ago, the first box of CorelDraw 1 was shipped to market. The company reports that in the past decade, more than 10 million units of the product have been sold worldwide and that more is done at 100,000 studios, from map makers, quilt and stained glass designers have used the product—\$17.

What's New is written and edited by Jeff Evans, Megan Johnson, Shelley Myers, and Elizabeth Roberts and David Treloar.

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*The New York Times and other newspapers have reported that the FBI is investigating the matter. The FBI has not yet announced whether it is investigating the matter.

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16GB 70ns TS-16 800 SDRAM	\$4831838208.00		
32GB 70ns TS-16 800 SDRAM	\$9663676416.00		
64GB 70ns TS-16 800 SDRAM	\$19327352832.00		
128GB 70ns TS-16 800 SDRAM	\$38654705664.00		
256GB 70ns TS-16 800 SDRAM	\$77309411328.00		
512GB 70ns TS-16 800 SDRAM	\$154618822656.00		
1GB 70ns TS-16 800 SDRAM	\$309237645312.00		
2GB 70ns TS-16 800 SDRAM	\$618475290624.00		
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8GB 70ns TS-16 800 SDRAM	\$2473901162496.00		
16GB 70ns TS-16 800 SDRAM	\$4947802324992.00		
32GB 70ns TS-16 800 SDRAM	\$9895604649984.00		
64GB 70ns TS-16 800 SDRAM	\$19791209299968.00		
128GB 70ns TS-16 800 SDRAM	\$39582418599936.00		
256GB 70ns TS-16 800 SDRAM	\$79164837199872.00		
512GB 70ns TS-16 800 SDRAM	\$158329674399744.00		
1GB 70ns TS-16 800 SDRAM	\$316659348799488.00		
2GB 70ns TS-16 800 SDRAM	\$633318697598976.00		
4GB 70ns TS-16 800 SDRAM	\$1266637395197952.00		
8GB 70ns TS-16 800 SDRAM	\$2533274790395904.00		
16GB 70ns TS-16 800 SDRAM	\$5066549580791808.00		
32GB 70ns TS-16 800 SDRAM	\$10133099161583616.00		
64GB 70ns TS-16 800 SDRAM	\$20266198323167232.00		
128GB 70ns TS-16 800 SDRAM	\$40532396646334464.00		
256GB 70ns TS-16 800 SDRAM	\$81064793292668928.00		
512GB 70ns TS-16 800 SDRAM	\$162129586585337856.00		
1GB 70ns TS-16 800 SDRAM	\$324259173170675712.00		
2GB 70ns TS-16 800 SDRAM	\$648518346341351424.00		
4GB 70ns TS-16 800 SDRAM	\$1297036692682702848.00		
8GB 70ns TS-16 800 SDRAM	\$2594073385365405696.00		
16GB 70ns TS-16 800 SDRAM	\$5188146770730811392.00		
32GB 70ns TS-16 800 SDRAM	\$10376293541461622784.00		
64GB 70ns TS-16 800 SDRAM	\$20752587082923245568.00		
128GB 70ns TS-16 800 SDRAM	\$41505174165846491136.00		
256GB 70ns TS-16 800 SDRAM	\$83010348331692982272.00		
512GB 70ns TS-16 800 SDRAM	\$166020696663385964544.00		
1GB 70ns TS-16 800 SDRAM	\$332041393326771929088.00		
2GB 70ns TS-16 800 SDRAM	\$664082786653543858176.00		
4GB 70ns TS-16 800 SDRAM	\$1328165573307087716352.00		
8GB 70ns TS-16 800 SDRAM	\$2656331146614175432704.00		
16GB 70ns TS-16 800 SDRAM	\$5312662293228350865408.00		
32GB 70ns TS-16 800 SDRAM	\$10625324586456701730816.00		
64GB 70ns TS-16 800 SDRAM	\$21250649172913403461632.00		
128GB 70ns TS-16 800 SDRAM	\$42501298345826806923264.00		
256GB 70ns TS-16 800 SDRAM	\$85002596691653613846528.00		
512GB 70ns TS-16 800 SDRAM	\$170005193383307227693056.00		
1GB 70ns TS-16 800 SDRAM	\$340010386766614455386112.00		
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16GB 70ns TS-16 800 SDRAM	\$5440165868265831285777792.00		
32GB 70ns TS-16 800 SDRAM	\$10880331736531662571555584.00		
64GB 70ns TS-16 800 SDRAM	\$21760663473063325143111168.00		
128GB 70ns TS-16 800 SDRAM	\$43521326946126650286222336.00		
256GB 70ns TS-16 800 SDRAM	\$87042653892253300572444672.00		
512GB 70ns TS-16 800 SDRAM	\$174085307784506601144889344.00		
1GB 70ns TS-16 800 SDRAM	\$348170615569013202289778688.00		
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8GB 70ns TS-16 800 SDRAM	\$2785364924552105618318229504.00		
16GB 70ns TS-16 800 SDRAM	\$5570729849104211236636459008.00		
32GB 70ns TS-16 800 SDRAM	\$11141459698208422473272918016.00		
64GB 70ns TS-16 800 SDRAM	\$22282919396416844946545836032.00		
128GB 70ns TS-16 800 SDRAM	\$44565838792833689893091672064.00		
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8GB 70ns TS-16 800 SDRAM	\$2852213682741356153157066916096.00		
16GB 70ns TS-16 800 SDRAM	\$5704427365482712306314133832192.00		
32GB 70ns TS-16 800 SDRAM	\$11408854730965424612628267664384.00		
64GB 70ns TS-16 800 SDRAM	\$22817709461930849225256535328768.00		
128GB 70ns TS-16 800 SDRAM	\$45635418923861698450513067657536.00		
256GB 70ns TS-16 800 SDRAM	\$91270837847723396901026133155072.00		
512GB 70ns TS-16 800 SDRAM	\$182541675695446793802052262310144.00		
1GB 70ns TS-16 800 SDRAM	\$365083351390893587604104524620288.00		
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4GB 70ns TS-16 800 SDRAM	\$1460333405563574350416381888481152.00		
8GB 70ns TS-16 800 SDRAM	\$2920666811127148700832763777962304.00		
16GB 70ns TS-16 800 SDRAM	\$5841333622254297401665527555924608.00		
32GB 70ns TS-16 800 SDRAM	\$11682667245088594803331055111849216.00		
64GB 70ns TS-16 800 SDRAM	\$23365334490177189606662102223698432.00		
128GB 70ns TS-16 800 SDRAM	\$46730668980354379213324204447396864.00		
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128GB 70ns TS-16 800 SDRAM	\$478522051558828843144433415154813312.00		
256GB 70ns TS-16 800 SDRAM	\$95704410311765768628886683030962624.00		
512GB 70ns TS-16 800 SDRAM	\$191408820623531537257773366061925248.00		
1GB 70ns TS-16 800 SDRAM	\$382817641247063074515546732123850496.00		
2GB 70ns TS-16 800 SDRAM	\$765635282494126149031093464247700992.00		
4GB 70ns TS-16 800 SDRAM	\$1531270564988252298062186928495401984.00		
8GB 70ns TS-16 800 SDRAM	\$3062541129976504596124373856990803968.00		
16GB 70ns TS-16 800 SDRAM	\$6125082259953009192248747713981607936.00		
32GB 70ns TS-16 800 SDRAM	\$12250165119106018384497495427963215872.00		
64GB 70ns TS-16 800 SDRAM	\$24500330238212036768994990855926431744.00		
128GB 70ns TS-16 800 SDRAM	\$49000660476424073537989981711852863488.00		
256GB 70ns TS-16 800 SDRAM	\$98001320952848147075979963423705729728.00		
512GB 70ns TS-16 800 SDRAM	\$19600264190576329415195986844701145456.00		
1GB 70ns TS-16 800 SDRAM	\$392005283811526588303919736884022911104.00		
2GB 70ns TS-16 800 SDRAM	\$784010567623053176607839473768045822208.00		
4GB 70ns TS-16 800 SDRAM	\$156802113524610635335767894736691644416.00		
8GB 70ns TS-16 800 SDRAM	\$3136042270492212706715357894733832888832.00		
16GB 70ns TS-16 800 SDRAM	\$6272084540984425413430715789467665777664.00		
32GB 70ns TS-16 800 SDRAM	\$12544169081968850826861431578933331555328.00		
64GB 70ns TS-16 800 SDRAM	\$25088338163937701653722863157866663110656.00		
128GB 70ns TS-16 800 SDRAM	\$5017667632787540330744572315733326221112.00		
256GB 70ns TS-16 800 SDRAM	\$10035335265575080661489446315266644422224.00		
512GB 70ns TS-16 800 SDRAM	\$200706705311501613229788896315133288844448.00		
1GB 70ns TS-16 800 SDRAM	\$401413410623003226459577792631266776888896.00		
2GB 70ns TS-16 800 SDRAM	\$80282682124600645291915558526253357777792.00		
4GB 70ns TS-16 800 SDRAM	\$1605653642492012957838311170525067155555536.00		
8GB 70ns TS-16 800 SDRAM	\$3211307284984025915676622341050134311111072.00		
16GB 70ns TS-16 800 SDRAM	\$6422614569968051831353244682100026822222224.00		
32GB 70ns TS-16 800 SDRAM	\$128452291399361036267064896420005364444448.00		
64GB 70ns TS-16 800 SDRAM	\$256904582798722072534129792840010728888896.00		
128GB 70ns TS-16 800 SDRAM	\$513809165597444145068259585680021457777792.00		
256GB 70ns TS-16 800 SDRAM	\$1027618331194888300136459171360042915555536.00		
512GB 70ns TS-16 800 SDRAM	\$2055236662389776600272918342720085831111072.00		
1GB 70ns TS-16 800 SDRAM	\$411047332477955320054579668544017162222224.00		
2GB 70ns TS-16 800 SDRAM	\$82209466495591064010915933708803432444448.00		
4GB 70ns TS-16 800 SDRAM	\$164418932991182128021831867417606864888896.00		
8GB 70ns TS-16 800 SDRAM	\$32883786598236425604366373483521373777792.00		
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Intel Celeron 366 w/128K L2 \$330

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\$715

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OKidata

Okpage 8sv

\$395

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- 4 pages per minute
- 20 pages Stacking
- 2000 Page Monthly Duty Cycle

Microline

DOT-MATRIX

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ML104	300	0	0	0	\$395
ML200/321	436	0	0	0	\$445/515
ML525/521	436	0	0	0	\$445/515
ML300/301	360	24	0	0	\$445/515
ML305/305	637	24	0	0	\$515/1105
ML500/501	360	24	0	0	\$475/525

Canon

PIXUS 230 Inkjet Printer

\$242

400 dpi x 600 dpi

100 pages per minute

100 pages per minute

SE Live Value

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\$150

256 Ultra Polytron

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Millennium

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CD-ROM

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1.3 Mega

1.3 Mega

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PIIX210B

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CD-ROM

CD-ROM

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CD-ROM

CD-ROM

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1.3 Mega

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Acer

Extensa 501DX

Intel Pentium III 450MHz MMX
32MB Memory
3.2GB Hard Drive
2X CD-ROM/DVD (to be added)
12.1" TFT Display
MSRP Price From \$1,099.00

Model	CPU	RAM	HDD	CD	Display	Price
5010X	PIII 450	32MB	3.2GB	20X	12.1" TFT	\$1,315
5020X	PIII 450	32MB	4GB	20X	12.1" TFT	\$1,399
503T	PIII 450	32MB	4GB	20X	12.1" TFT	\$1,415
510TE	PIII 500	32MB	4GB	24X	13.3" TFT	\$1,325
511TE	PIII 500	32MB	4GB	24X	13.3" TFT	\$1,350
512TE	PIII 500	32MB	4GB	24X	13.3" TFT	\$1,375

ThinkPad 7441E

Intel Pentium III 450MHz MMX
32MB Memory
4.2GB Hard Drive
2X CD-ROM/DVD (to be added)
12.1" TFT Display

Model	CPU	RAM	HDD	CD	Display	Price
7440E	PIII 450	32MB	4.2GB	20X	12.1" TFT	\$1,295
7441E	PIII 450	32MB	4.2GB	24X	12.1" TFT	\$1,385
7442E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$1,475
7443E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$1,565
7444E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$1,655
7445E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$1,745

Model	CPU	RAM	HDD	CD	Display	Price
7446E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$1,835
7447E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$1,925
7448E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,015
7449E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,105
7450E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,195
7451E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,285
7452E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,375
7453E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,465
7454E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,555
7455E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,645
7456E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,735
7457E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,825
7458E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$2,915
7459E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$3,005
7460E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$3,095
7461E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$3,185
7462E	PIII 450	32MB	4.2GB	24X	13.3" TFT	\$3,275

Aspire 7700 Series

Intel Pentium III 450MHz MMX
32MB Memory
3.2GB Hard Drive
2X CD-ROM/DVD (to be added)
12.1" TFT Display
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Aspire 7700 Series

Intel Pentium III 450MHz MMX
32MB Memory
3.2GB Hard Drive
2X CD-ROM/DVD (to be added)
12.1" TFT Display
MSRP Price From \$1,099.00

Aspire 7700 Series

Intel Pentium III 450MHz MMX
32MB Memory
3.2GB Hard Drive
2X CD-ROM/DVD (to be added)
12.1" TFT Display
MSRP Price From \$1,099.00

Fujitsu

LifeBook Family

Model	CPU	RAM	HDD	CD	Display	Price
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5300	PIII 300	32MB	3.2GB	24X	12.1" TFT	\$1,250
5300	PIII 300	32MB	3.2GB	24X	12.1" TFT	\$1,250
5300	PIII 300	32MB	3.2GB	24X	12.1" TFT	\$1,250
5300	PIII 300	32MB	3.2GB	24X	12.1" TFT	\$1,250
5300	PIII 300	32MB	3.2GB	24X	12.1" TFT	\$1,250
5300	PIII 300	32MB	3.2GB	24X	12.1" TFT	\$1,250
5300	PIII 300	32MB	3.2GB	24X	12.1" TFT	\$1,250
5300	PIII 300	32MB	3.2GB	24X	12.1" TFT	\$1,250
5300	PIII 300	32MB	3.2GB	24X	12.1" TFT	\$1,250

COMPAQ Armada 1500c

Intel Celeron 266MHz MMX
32MB Memory/2GB HDD
34X CD-ROM
8.9" TFT Display
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Choosing Your Monitor

Model	CPU	RAM	HDD	CD	Display	Price
1500c	Celeron	32MB	4GB	24X	12.1" TFT	\$1,250
1500c	Celeron	32MB	4GB	24X	12.1" CRT	\$1,250
1500c	Celeron	32MB	4GB	24X	12.1" TFT	\$1,250
1500c	Celeron	32MB	4GB	24X	12.1" TFT	\$1,250
1500c	Celeron	32MB	4GB	24X	12.1" TFT	\$1,250
1500c	Celeron	32MB	4GB	24X	12.1" TFT	\$1,250
1500c	Celeron	32MB	4GB	24X	12.1" TFT	\$1,250
1500c	Celeron	32MB	4GB	24X	12.1" TFT	\$1,250
1500c	Celeron	32MB	4GB	24X	12.1" TFT	\$1,250
1500c	Celeron	32MB	4GB	24X	12.1" TFT	\$1,250

3Com

Palm III

Intel Pentium III 450MHz MMX
32MB Memory
3.2GB Hard Drive
2X CD-ROM/DVD (to be added)
12.1" TFT Display
MSRP Price From \$1,099.00

PHILIPS

nino

Intel Pentium III 450MHz MMX
32MB Memory
3.2GB Hard Drive
2X CD-ROM/DVD (to be added)
12.1" TFT Display
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TOSHIBA

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2X CD-ROM/DVD (to be added)
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Intel Pentium III 450MHz MMX
32MB RAM up to 2GB
3.2GB Hard Drive
2X CD-ROM/DVD (to be added)
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Satellite 4000CDS

Intel Pentium III 450MHz MMX
32MB RAM up to 2GB
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'Super' ad campaign revealed at Lotusphere

By Geoff Whithright

OMELAND, Va.—In the last decade, American comic books spawned Superman and leading corporations software applications. Lotus Notes have both been declared dead. Superman was reportedly DC Comics in 1991. Lotus Notes was declared dead by the *Wall Street Journal* in mid-1995—and the newspaper predicted that the arrival of the Internet, the Web, and Indonesia would quickly bury it.

Today, both are hale and hearty. Superman was revived in his dual role as a new version of the character and a new costume (blue and white) to his old powers and costume (blue and red). Meanwhile, Lotus Notes (now owned by IBM) has defied expectations of its death and increased its user base to a few million to more than 14 million at the end of 1995.

Now, the two are joining forces in an unprecedented \$100,000 outdoor advertising campaign designed to build awareness for both Notes, and it seems better equipped, Domino Designer.

At the company's Lotusphere '93 user conference here in January, Lotus president and chief executive officer Jeff Papenau said Lotus wanted Notes and Domino users to feel they possessed "super-human" abilities.

It is in handling this week, he suggested the campaign to sell the latest version of these products—now in their fifth version—was as important as Lotus and IBM as the launch of Windows 95 was to Microsoft in 1993.

After spending the last four years in the shadow of IBM, Lotus wants to cut loose and gain a much higher profile with the launch of Release 5 of Lotus Notes, Domino and Domino Designer.

At that time, Microsoft reportedly paid more than \$340 million for the rights to use the Redding Thomas song *Just As I Am* as part of its worldwide promotion. The "super-human" theme in the new Lotus 95 and

prior advertising campaign for selling the Lotus "5-button" and collaborative computing software was also announced to Superheroes springing although it was known primarily to the TV ad series.

The reason for this huge campaign is that Lotus is facing stiff competition, particularly from Microsoft Exchange. The goal of the advertising push appears to be establishing a strong brand for Lotus Notes and Domino that can help it break through Apple's spreading the last few years in the shadow of IBM which acquired Lotus in June of 1995. Lotus wants to cut loose and gain a much higher profile with the launch of Release 5 of Lotus Notes, Domino and Domino Designer.

These products are the latest version of the company's existing suite of information management, messaging, collaboration and Web application development tools. They adopt it a time where the company is celebrating a milestone in its installed base of Notes users. Lotus says it now has more than 14 million "installed users" of Lotus Notes (including the world)—an increase of 15 million over the last 12 months and slightly ahead of the 12 million the company had predicted it would sell in 1995.



Notes messages about how important can be "super-human" with Lotus products and includes subtle references to the much-loved *Lois Lane* and *Blue* consumer super hero.

In keeping with the theme of ordinary people doing super-human things, the conference was also linked with the introduction of real-life heroes James Leavel and Gena Kizic. These men were respectively the co-creator of the different Apple 10 series in the music and the silicon central office who demonstrated the strategy to being has been from space. Assistant Leavel was introduced in the 1995 Apple 10 line as the first "super" hero. "He was a pioneer" and Kizic was described "hero" who saved the world "before it was an option." So whether the issues are not so or in comic books, Lotus wants to be associated with them.

According to Jonathan Spies, analyst for New York-based The Bantz Group, the super hero who is a unique combination of both and is the 1995. "I think that super-heroes are going to give people a sense of what they can do," he said.

"There's only so much to be said of selling products the mail, and colorful software that you can do. You have to do some thing more than that to make the point that the Notes/Domino software is not just a collection of tools and features throughout the enterprise," Spies said. "This is about giving small businesses and getting some technology delivered in a way that makes sense to users. They are making the small business owners who might have guessed that Lotus and Domino were not of their work." □

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The 'I Am' ad campaign features messages about how anyone can be 'superhuman' with Lotus products

So Jeff Papenau used his keynote speech at Lotusphere to call on business people to make and take advantage of "superhuman" solutions that aren't computer solutions for today's companies and enhance the personal productivity of those who depend on them. And he covered the "I Am" ad campaign which fo-



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MONITOR SPECIALS

The compleat PC artist

In this month's feature, we look at the current state of the personal computer as a creative tool, whether for the beginner, the serious student or "prosumer," or the professional artist. We'll analyze individual products as part of a creative toolkit, and

the components of a digital studio. We'll show a range of computing solutions that offer the greatest value for those on a starving artist's budget, as well as the maximum creative muscle money can buy for the well-heeled commercial art pro.



By Jeff Brown

One of the strongest themes in the evolution of computing has been the desire to use computers for creativity and communication. That desire was a large part of the thinking behind the computers of the Apple II era, and the Commodore Amiga computers in the early 1980s.

Whether in music art, film, publishing or teaching, many people have found a way to use computers as a tool for exploring and sharing feelings, ideas and ideas with other human beings. Personal computer technology 1999 style, when combined with the potential of the World Wide Web, would

seem to offer a vast and ever improving toolkit to serve the creative impulse.

We'll consider creativity on the PC from two perspectives: personal, where you own equipment or social needs, and commercial, where your work must create value, the demands of the marketplace for new ideas, money, or for both how you use your PC for creative purposes?

Toolkits

There are a vast number of creative things you can do on a computer, from exploring the means of reference or writing and applying it to a 3D animated character, to designing a poster for your group. Even before computers came along, it was hard to answer the

question "What Is Art?" With the convergence of digital media on the computer, it's even harder to really categorize art by different techniques.

For example, a snapshot of Aunt Martha can be scanned and incorporated into a layout as part of a printed book or magazine, or put onto a Web site, or made into part of a business presentation slideshow, or screen mapped onto the face of an animated character—that possibilities are endless. Nevertheless, for convenience if nothing else, we'll consider the creative sets on a computer in terms of several core and traditional media categories always encompassing that digital artwork can easily be "re-purposed." The general categories are:

- drawing, painting and photography (with cameras)
- writing, designing and publishing for print
- Web publishing, advertising and marketing
- interactive multimedia
- video and animation (including 2D and 3D animation) and
- audio and music (in entry level only—professional music is beyond the purview of this article)

We'll consider what might constitute the perfect digital studio, composed of PC hardware, software, peripheral devices, services and learning resources. ☐

Monitors cater to graphic artists' needs

By Geoff Woodwright

When you are creating works of art on your PC, it is important to be able to see what you are doing, and no single component is more important for this than your monitor. But, despite what you may think, size doesn't necessarily mean better.

There is probably a far greater variety of computer display monitors now than at any time since the mid-1960s when PCs first began gaining popularity amongst graphic designers and artists. Today you can choose from all shapes, sizes, price ranges and configurations—and use a variety of technologies to achieve some truly amazing results.

A good example of this tremendous variety was on view recently at the Computer Canada View '99 exhibition in Vancouver in last January, where leading display vendors

showed off a broad range of monitors using both conventional CRT (cathode ray tube) and LCD (liquid crystal display) technologies.

One of the most intriguing collections was at the Viewsonic booth, where the company showed new displays that appear to have nearly filled a number of the strictest requirements demanded by professional artists.

The first requirement is offering the highest color and display resolution in the smallest possible package at the best possible price. Typically, this is met through use of LCD display technology—although most manufacturers are focusing on the challenge of making high resolution, fast refresh displays affordable.

At 11,327 and 16, the Optiquest 1790, Viewsonic has achieved the high-resolution pricing level, but the price and specification price is a very encouraging trend in the

monitoring of LCD displays. And remember, 17,920 is a low price and one that can easily cross with a more, suggesting that if you buy from the right vendor, you'll find better savings.

Whether you write, you will get an LCD display with a 15.1-inch viewable area (which Viewsonic says is the equivalent to a 17-inch CRT display) and offers a resolution of 1,280x1,024 pixels. Viewsonic suggests that this kind of display is particularly suited to artists and use in business presentations because it has the perfect proportions (i.e., the image displayed is the same as the viewing angle).

There is no doubt, however, that you get a lot more monitor for your money when you buy a more conventional CRT display. Not only are most displays physically bigger, but a similarly priced CRT will have many more pixels than an LCD display.

Viewsonic's new "picture bar" 1770

15-inch CRT display, with a list price of display alone than \$1,400, comes with a maximum resolution of 1,000x200 or 87 MHz, and a maximum non-interlaced resolution of 1,000x440.

More interestingly, it also has a built-in USB universal serial bus "hub" allowing the display to double as the connecting point for USB devices—including scanners, digital cameras, input devices and removable storage systems.

The ultimate in Viewsonic's CRT displays for artists, however, is probably the 21-inch 7617 Atomic Monitor, which the company is pitching as a solution for professionals in the CAD/CAM architectural drawing and design sectors. Not only does this 11.625-cm-thick offer a 340 MHz video input bandwidth and resolution of up to 1,600x1,136, but it also has a built-in four-port USB hub. ☐

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The beginning PC artist's toolkit

Continued from page 32
of 1,200x600 pixels. It also has a built-in aligner that allows better quality before to be fixed in the camera can greatly improving the quality of pictures taken.

Software

Drawing, painting and photography (see) included. In most cases available before printed most with their own rules of image processing, "paint" and simple



publishing software. Scientists and other collectors included with "3D" versions of programs such as Photoshop or graphics programs from third-party (3DC).

Nevertheless, it's a bad idea to buy a scanner or printer based on the usually low-end software that's thrown in for free. We recommend a high-end package in this case. MG's Photo Suite II. This program has a powerful suite of tools for manipulating images in each of the common file formats (including JPEG, GIF and TIFF).



and allow the user to change or composite images, play with transparency and other special effects and add text to graphics.

Also, remember cheaper alternatives to Photo Suite II is JVC's software. Even though it's a bit slower at "burning" images to CD-ROMs, it offers high resolution desktop publishing image creation.

We also need two important steps in image editing programs from ScanMaster Software, which allow the user to add special effects to digital images. Professional ScanMaster's Image Artist considers a range of filters. For example, make a photo look like a watercolor painting, or make parts of the photo fade out to plain paper format.

Desktop ScanMaster's Image Artist is a smaller package, with somewhat different and extended features, including a number of pre-set picture frames that the user can put around the edges of the picture.

We also need, and highly recommend, Atkinson Multimedia's Graphic Workshop Professional 3.0a, a Windows 95/98/NT program initially \$40 (regular price) to \$20 (discounted), which we downloaded from the Internet. Web site: <http://www.atkinson.com>. Graphic Workshop Professional makes it very simple to organize, test, save, and convert graphics files. Even so, a computer with limited RAM and a low-powered graphics card.



Picture It! SE

Picture It! SE is a simple, easy-to-use, and capable

Writing, designing and publishing for print. We used Microsoft's Graphics Studio from Publishing Suite 95 on our PPC, and found this package worked well when creating a wide range of letters, reports, newsletters and ads. It offered a wide range of easy-to-use, basic word processing, page layout and graphics tools.

We also tested several new commercial graphics packages from Canon, which are intended for the home or occasional office graphics user. Canon's Color Suite Print System falls into a "beginner" or "intermediate" category. It allows users to drag-and-drop pictures and text elements into customizable document templates and print them out.

Picture Fun is a screening and image manipulation package that offers features such as the Canon Color Management System to automatically correct common image-screening problems. Color Ready is designed for other PC users to make use of the increasing availability of color printers as desktops by supplying colorful, professionally designed templates for Word and Excel files. Photo-Play is designed to allow couples to create to register, fit, find, save and share pictures over a network or the Internet.

One of our favorites is Corel's Photo Gallery.

Continued on page 36

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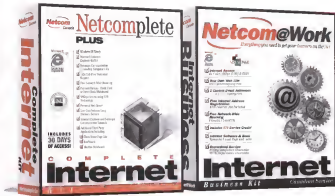
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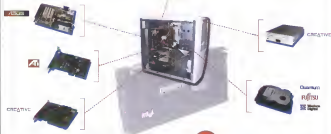
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By Jeff Brown

PC Hardware

The computer for this feature, we used the Compaq Presario 5445, with a 650-MHz Pentium II processor, 128-MB of RAM, 10-MB AGP video card, 12-Gb hard drive, DVD-ROM drive, 5.6-in. screen, speakers, 56Kbps modem, 10-MHz Ethernet card, and 15-inch LCD flat-panel monitor. However, any high-end system will do for this job.

Thanks to the processor speed and RAM video card components for a high-end graphics workstation for the video and still display system, and—if you want to do video editing—a big and fast hard drive.

Recommended peripherals: Epson Expression 800 scanner, Epson Professional 3000 digital camera, Tekimon printer, and Epson 7000C LCD data projector.

Epson has recently released several low-end peripherals suitable for graphics professionals. The new Expression 800 scanner with resolution up to 300x300 dpi (\$200 per unit), has excellent scanning quality with a color reflective or transmissive print, artwork, and scans with Adobe Photoshop 5.0 LE. It also has a SCSI interface card for high-speed data transmission and a history of color scanning and OCR (optical character recognition) text software.

The Professional 3000 is a 3.5-million-pixel digital camera (maximum 1,600x1,200-pixel digital output) for about \$1,700. While I haven't used it particularly often this month, aside from the high resolution, was the superb image quality (even under low light or somewhat variable lighting).

The Tekimon Phaser printer is an extremely fast, rugged, high-quality printer, designed for use on a network, which features very low operating costs due to its use of inexpensive solid ink technology.

The Epson 7000C LCD projector might seem to be a luxury item that isn't included, but because it is one of the lightest, most portable, high-quality data projectors we've seen. For professionals who need to present data work, whether at the front of a

video, Web video, or digital multi-media presentation, it is a shining, high-quality tool.

Software:

Illustrating, painting and photography (all images): Adobe Photoshop 5.0, Adobe Illustrator 6.0.

If I had to bet which single software package truly evokes instant commercial ad, my money would be on Photoshop 5. It has become the de facto standard for professional photography and illustration on the Windows and Mac platforms, leading the way in computer illustration. (From: Corel, Microsoft)

and editors.

This hefty package comes at a hefty price, but Photoshop's vast arsenal of compositing tools, layering, transparency and tracking options, is unmatched anywhere in the creative visual environment.

We'd had our cut with good alternatives like PhotoShop is a superb tool, and creative work should be done with it. It's a learning curve, and some learning tools into the next package generation.

Adobe Illustrator: While not exactly chopped first by competitors, it is a more specialized product. Although it's not handling color graphics and transparency features have improved, and it's still better. When integrated with Photoshop it is still the best-selling in the Adobe Image creation with new family.

Writing, designing and publishing the print: Adobe PageMaker 4.5.

Wide Open: Adobe still the standard. The product is still publishing on the Web. It is



Bitmap or vector? Why not both?

A new generation of paint/graphics programs draws from each tradition

By Jacques Surroyer

One of the initial paint/graphics programs for PCs is Microsoft Paint. It was developed in the late 1980s to

show off the graphics capabilities of the Windows operating system and to compete with MacPaint, which had been developed for the Apple Macintosh platform. It has improved with many improvements in Windows

3.0 through to Windows 98.

It's roughly the same old program from Adobe (Illustrator) and Corel (Draw) demonstrated some of the amazing cloning and text effects that could be achieved with vec-

tor graphics. With vector graphics software, curves and fills are stored as formulas, not as color pixels in coordinates as they are in the bitmap programs like Paint. But now just a Paint gives way to Photoshop (which cost also February 99 and Photoshop 2003) we are finally seeing the results of bitmap and vector graphics merge.

With Adobe's Creative 4 leading the way, graphics programs are becoming more comprehensive—more clearly revealing which underlying object is being used. Bitmap maps vector curves to line elements. Now PC users can reconsider on the "how" and the "what."

This confluence can be seen with several programs, such as Microsoft's Expression, Adobe's new InDesign, Ulead's Photo Impact 4.3 and Corel's hot new Power2GoPlus plug-in.

In short, more graphics programs are using text objects, vector curves and shapes to supply precise, scalable artwork for embedding bitmap textures and fills. Then the whole creation is converted to EPS, GIF, Web or PNG before its Web display and/or highly compressed for storage.

Designers are turning to resolution-ready provide the best of bitmap and vector graphics in one program. Not only will Microsoft Paint be put out to pasture but in the world of 2D graphics, the division between bitmap and vector graphics and shortly 3D and rendering will start to fade as graphic objects enter the foreground.

This premise is just another way of stating that not much will quite a lot has happened since our last review of bitmap and Web graphic tools in November 1998 issue of *The Computer Artist*. Unlike the not-so-techno-savvy category art major programs like Adobe Photoshop and Corel's Photopaint, Ulead's Photo Impact 4.3 is a new breed of paint programs where designers have in eye for Web graphics in digital image processing and have down the road to graphic objects. These include Adobe's InDesign, Ulead's Creative 4, and Microsoft's PhotoDraw 2003 (beta) and Ulead's PhotoImpact 4.3.

Graphic programs are also offering more realistic graphics and patterns to help users work as simple things like vector lines or curves or color fills.

Really to make up for designers' reaction to the major programs' reaction on offering all sorts of after-advance for PhotoImpact 4.3, Photoshop and Corel's Photopaint programs that support the Adobe plug-in standard.

The programs are in fact working with new bitmap and graphic object formats that will help of a good story.

Easy-to-use photo editors

In fact, support for Adobe plug-ins along with a small number of tools, layers and objects, plus a powerful group of filters, brushes and effects, make the difference between high-end and easy-to-use photo editors.

In order to achieve a low price and reasonable quality, these programs concentrate on only. They provide a wealth of step-by-step tutorials or guides that take users through various digital imaging projects—and eye removal, retouching for structure, adding a

Continued on page 12

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Table 2. *Staphylococcus aureus* and *Staphylococcus epidermidis* are sensitive to

Table 1 Participants' scores and qualitative responses across the five items

Figure 1. *Staphylococcus aureus* and *Staphylococcus epidermidis* strains.

[illegible]

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MultiMedia

- The video card is a great price, although it should be used with Windows 95 and Windows 98.
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Issues

- Because of the size of the system, it should be used with Windows 95 and Windows 98.
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Corel sells Netwinder unit

OTTAWA (CN)—Corel Corp. has also announced it is selling its Corel Computer Netwinder unit to Hardware Canada Computing (HCC). Corel also announced it had a profitable fourth quarter in 1998, though it finished the year with a loss.

Corel and HCC said they signed a letter of intent to transfer the Netwinder a few weeks after Corel and Hardware Canada sold its unit to HCC. In return, Corel will gain a 15 percent ownership position in HCC. Corel said the agreement should be finalized by the end of Corel's fiscal first quarter 1999.

Corel president and chief executive officer Michael Cowland said in a press conference that the firm has considered spinning off Corel Computer for some time but decided to wait until this year was right.

He said the development of the Netwinder business (business and retail unit) have been good. In October, Corel reached an agreement with Linux distributors to license the Netwinder and place a Red Hat logo on the case. At Corel's in November 1998, Hardware Canada said it didn't share a view that the industrial Linux market.

But Cowland says before the Netwinder family will experience considerable success from Hardware Canada Computing's sales as one of Canada's largest Value-added resellers and its experience in the Linux/UNIX space.

Corel will move toward a single line to its core software business and two flag ship brands. WordPerfect and CorelDRAW Suite are available on the Linux platform through the Linux logo to help in North America this month.

Corel: www.corel.com

MP3s playable anywhere?

In a portable computer business that selects Adaptec and the online music label Corel plan to release software that will seamlessly record MP3 audio files into a format that can be played on regular CD players. If successful they expect to release it before the end of the year. It could bring the popular file format format out of the computer and into the mainstream.

MP3 is a popular format that compresses music files by up to 10 percent while retaining much of the fidelity of the original. The codes are flexible enough for easy transfer over the Internet. However, the format's reliance on computer technology has restricted use of the format to date to people with computers.

The online music Adaptec's technology and Corel's goal of creating online Adaptec developed various market-leading CD-burning software products including Corel CD Creator and Corel CD-Now. Corel's plan to release music online and has become a leader in the expanding market for downloadable music.

Under the terms of the agreement, Corel and Adaptec will jointly sell and promote each other's products and services. Together they'll focus on technological solutions to simplify downloading and purchasing of MP3 audio files from the Internet and allowing customers to make their own CDs.

Dave Glass, general manager of Adaptec's Software Products Group says that "through this alliance we are able to offer MP3 music great combination of online and CD-burning software that makes it fun and easy to record their own music. CDs—CD-Rs."

Source: <http://www.pcnews.ca>

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In brief

Passwords can be predictable

LONDON, U.K. (ENR)—A survey carried out by Internet, a division of performance studies (Ipsos) Technology, has found that most experienced PC users tend to choose the same passwords, suggesting experts may need to be read threat to network security.

According to the survey, which polled 100 business customers in the United Kingdom, the most popular choices were dates of birth (33 percent) and pet's name (18 percent), while 20 percent of the men surveyed chose their favorite football team.

According to Ipsos's analysis, which is reported 50 percent of helpdesk calls are over password-related, the need to encourage to adopt more advanced methods of information technology (IT) security are now self-evident.

The survey revealed that the majority of people select passwords that make them sleep (or pay for hackers) in applications that banking, accessed Web sites, and network access.

However, says 80 percent of respondents, limited choosing simple passwords because they were afraid of forgetting more complex word and number combinations. Some respondents admitted to having a one-letter password, like the letter "a," which they use for PC credit card and bank account access, making them more vulnerable to fraud.

According to Ipsos, while initial thinking and thoughtless decisions may cause the problem of easy access, "it is now easily available and available for business."

Source: <http://www.ipsosresearch.com>

Canada mapped online

TORONTO (ENR)—Canada-based Sunlight Inc. will shortly begin offering online maps for any little site operator, including online maps. Map technology will serve all of Canada down to the street level and allow users to pinpoint locations by postal code, and low bandwidth providers of Sunlight.

Sunlight is licensing detailed street maps from Map Air, which provides paper street maps. Its software makes it possible to create a postal code and see the location represented by the code placed within a small window a map. The maps can be located in real time. (Working map is still in progress, in the final version, to go from a map of an entire province down to a level of detail that shows just a few blocks.)

The company, which also provides GIS/GIS-based maps of Toronto and Ontario as well as supplying the maps for the Ontario, Wilson-Henry CO GIS/GIS division, plans to focus on the Canadian market initially because there are already a number of suppliers of similar products in the U.S.

Map Mobility Server could be used on its own or as part of a search engine or shopping database, the company and Sunlight and Sunlight on the Map Technology Web site should be available just after this issue of ENR goes to press in mid-February.

Map technology, <http://www.maptechnology.com>
Sunlight, <http://www.sunlight.com>

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MARCH 1999

Choosing Y2K-compliance testing tools



The Gartner Group estimates that converting computer systems to handle 21st-century date information will cost between US\$400 billion and US\$600 billion worldwide. It also estimates that 25 percent to 50 percent of all computerized organizations will not achieve full Year 2000 compliance in time. Software Productivity Research Inc. estimates the total cost of reaching the millennium, including software, hardware, and database repairs, plus litigation expenses and damage awards, at US\$1.635 billion. Don't be a statistic!

— *The World's Y2K Top 50 The Year*

By William Jordan

There are many pitfalls on the market when it comes to Y2K—that is, problems to help you deal with the Year 2000 (Y2K) problem.

Some of these tools focus on the database level of the problem, your computer's BIOS and RTC (real-time clock). Others look at the application and/or operating system you are. Most of these tools will also work on the data you have stored on your computer. All other methods of accuracy, for example, server-related PCs or other networks.

However, deciding on which product is best for you is easy. The major issue that whether these products actually help you at the bottom line of them can completely mislead you. These tools should provide, especially when you consider that PCs account for a small portion of the Y2K problem, at a whole.

Before choosing a Y2K-compliance testing tool, you need to understand the Y2K problem and what is meant by Y2K compliance. Unfortunately "Y2K-compliance" is defined and misdefined almost daily and companies that sell Y2K-testing software agree to avoid the best help. While a company's sales may offer lots of information,

it is also likely to present that company's own interpretation of all solutions to the problem, and to focus on the wrong Y2K aspects. And you'll have to read through them to get to the information you need.

Some companies use an unhelpful definition to sell their case or to hide serious technical details to cover their expense. The Y2K problem, simply put, is the inability of computing systems to handle dates correctly. Therefore, to be compliant, a computer system must handle dates correctly.

Let us be more specific. For people who understand that the Y2K problem is a dynamic and complex issue with tools is important, but programming and/or general compliance, consider themselves experts. They know that the Y2K problem is not a result of computing system like systems analysis, programming, or engineering. One cannot get a Y2K-compliance solution by spending in Y2K testing.

The Y2K problem is a technical issue that is a subset of a computer issue. It is not a bug, nor is it an error, or malfunction, piece of code, it is a design flaw, or limitation, either deliberately or unintentionally created in a variety of computer-related technologies. That is why you will need to

many details about the Y2K problem and that little consensus on the issue.

You may know what will actually happen on Jan. 1, 2000, but everyone who considers himself or herself an expert is willing to speculate. Does this mean the Y2K problem is an unresolvable or imagined threat? Certainly not—there are computer systems that will not handle the date change and these systems will have to be replaced or repaired.

Test times

Now that you understand the problem and some other issues surrounding it, let's look at some basic to finding a tool that will help you.

Don't assume you are out of there. Many of you also run a computer in the workplace. Unfortunately, the only way to know when might be affected by the problem is to make a list of the critical functions you or your business need to perform to make money. This list will include things like the products or services you will sell and the products or services you require to make your business run with a view to the technologies that they require. Let's call an (imaginary) example as an example.

Let's Pretend The Institute has two computers on the document area and one

Continued on page 84

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Standards convergence lies for all

continued from page 88

have had quite different proprietary model processor languages. Now five of the six major database vendors (Microsoft is the seventh exception, following SQL standards and using Java for stored procedures and Java ODBC query syntax) are now directly compatible and interoperable than ever before.

To differentiate themselves, relational database vendors compete on reliability, performance, security, transparency, support, and applications available. In short, as the database market and technology matured, database became more of a commodity, the level-side price war and competitive behavior is leveling out.

Price and for free wars

In his speech at the Microsoft Professional Developers Conference, Microsoft spokesperson David Valenzuela said exciting new technologies in computing such as 3D graphical user interface) competition, digital photography and music/drawing on the Internet, plus including computing through programs.

speech recognition and English language understanding.

However, his slide showed all but one of the new major challenges in software and computing as having been solved. The one remaining challenge—fully distributed processing—remained elusive.

But even in that area, such progress has been made with Web 3.0 and e-commerce systems acting as an Internet 3.0, as the market matures—and because relational databases tend to fit all three segments—no one would expect the competition to be heard on the Internet side there, including reliability and performance.

The problem is that the world's next portable database company has a database server (Microsoft SQL Server) that cannot compete on the basis of functioning high-end performance to reliability with the top four database vendors. Even with standard improvements such as on-line locking, auto-recovery, sub-agreement and having Windows Microsoft's SQL Server must rely on long-term investment pricing and free-to-all handling in even the future. SQL Server costs \$300 per user while Oracle

and IBM use \$1,000 to \$1,000 per user. This works out roughly as a five to one price advantage for Microsoft.

So Oracle and IBM caution that their networking and ITI services are priced very competitively at \$100 per user as well. In return, Microsoft continues by giving away its free Microsoft Desktop Support Service, a top quality OLAP Server, Visual Modeler for data design, English Query as self-programming that allows English language statements into SQL, Java and Java (data connections) in moving data among databases and data warehouses to a connected Web to allow it there in the first growing ODBC segment of the database server.

So Oracle, Sybase and IBM respond with their own database bundles. Their Microsoft, even followed by Oracle, gives away training or consulting services.

A price and bundling free-for-all has begun on the database market. Some would argue that it's finally come down to \$1,000 per user, database vendors are down to their knees now—expensive data is a multi-million-dollar service (about \$100 to \$150 per user) in an office-scale (about \$200 in per user).

It is hoped that lower database prices will bring more database applications into use. That may be partially true, but unlike other parts of computing systems, database systems have significant development costs added and web-chains. These costs are often quite substantial, and given the shortage of programmers and qualified staff, they will continue to rise.

The price war has extended well to Linux. IBM had announced in December that it would be releasing version 5.0 of DB2 for free in early January. While Web 3.0 is continuing to rise in the second half of the year or so, it is not clear that

new versions of databases (plus Web and third development software) from Oracle, Informatica, Software AG, and Sybase result in flowering of application development in the Linux world. It certainly could happen in the Web and e-commerce (Java/Oracle Linux and Apache Server) as well as software of choice (as seen in 80 percent of Internet service providers).

However, it is likely to happen in either ODBC and OLAP segments because that is where developers interact most heavily. Planning 3.0 forms like SAP 3.0 (4-words), and Microsoft and large customers and value added providers (Oracle, like Australia, IBM and both Java) are not adopted Linux on a wide way. However, price pressure could have more IBM and customers changing their love of Linux as performance and reliability advantages as well as open source code.

Summary

Just as database systems split into three big groups with their own development and usage requirements, relational and hybrid relational databases now lead the field. But with four to five major vendors jockeying for dominance of this and database market, a price war has broken out. Even the highly speculative mobile and embedded processing market segments are not immune to price and bundling free-for-all. As technology rapidly sophisticated customer and ISP vendors (accessibly) will be selected and market share (taking data from all but the biggest IT shops) it will be interesting to see how the database industry evolves in the next five to three years. □

David S. Sussman is a consultant who writes this site journal at <http://www.cdfm.com/~dss>

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G3 memory upgrades arrive

SAN FRANCISCO (PFI)—Apple estimates that sales of its G3 Power Macintosh line amounted for over \$150 million in 1999. Last year, or some two percent of the overall desktop PC market. While the vendor launched a new, more powerful G3 in early January, a number of memory manufacturers introduced products designed to work with the popular machines.

The new G3s are shipped with 44 MB of RAM standard, and some low-end units that can accommodate memory modules up to 256 MB of RAM each.

Peripheral Enhancements

Peripheral Enhancements Corp. has introduced a full line of PC 133 memory upgrades for the G3. Peripheral memory upgrades for the Power Macintosh G3 are being manufactured in 16 MB, 32 MB, 44 MB and 128 MB configurations. The advertised retail prices for these upgrades range from \$134.95 for 16 MB to \$1,049.95 for 128 MB.

Peripheral's memory upgrades can easily expand the new G3 to 512 MB of RAM, by using four 128 MB memory boards. For Peripheral's upcoming 256 MB PC-100 G3 upgrade will fit users who want their computer with 1 GB of RAM by using four of the 256 MB modules.

Peripheral: <http://www.periph.com>

PFI Technology

PFI Technology has announced

immediate availability of its 64 MB and 128 MB SDRAM DIMM for the G3. The modules can be installed individually or up to four at a time to provide 512 MB of SDRAM. PFI also has a 256 MB upgrade, planned for release in early 2001, would expand the G3's memory capacity to 1 GB.

PFI: <http://www.pfi.com>

PowerRAM

PowerRAM announced it would immediately begin shipping a full line of memory upgrades for the G3 including, 16 MB, 32 MB, 44 MB and 128 MB configurations. Like PFI and Peripheral, PowerRAM's upcoming 256 MB G3 upgrade will enable users to reach 1 GB with four modules. Estimated retail prices for PowerRAM G3 upgrades range from \$135.00 for 16 MB modules to \$1,020.00 for a 128 MB module.

PowerRAM: <http://www.poweram.com>

Wiking Computers

Wiking Computers is already shipping PC100 SDRAM DIMM upgrades for the new G3 as follows: 16 MB, 32 MB, 44 MB, 64 MB, 96 MB, 128 MB, 160 MB, 192 MB, 256 MB, 384 MB, 512 MB, 768 MB, 1 GB, 1.5 GB, 2 GB, 3 GB, 4 GB, 6 GB, 8 GB, 10 GB, 12 GB, 14 GB, 16 GB, 18 GB, 20 GB, 22 GB, 24 GB, 26 GB, 28 GB, 30 GB, 32 GB, 34 GB, 36 GB, 38 GB, 40 GB, 42 GB, 44 GB, 46 GB, 48 GB, 50 GB, 52 GB, 54 GB, 56 GB, 58 GB, 60 GB, 62 GB, 64 GB, 66 GB, 68 GB, 70 GB, 72 GB, 74 GB, 76 GB, 78 GB, 80 GB, 82 GB, 84 GB, 86 GB, 88 GB, 90 GB, 92 GB, 94 GB, 96 GB, 98 GB, 100 GB, 102 GB, 104 GB, 106 GB, 108 GB, 110 GB, 112 GB, 114 GB, 116 GB, 118 GB, 120 GB, 122 GB, 124 GB, 126 GB, 128 GB, 130 GB, 132 GB, 134 GB, 136 GB, 138 GB, 140 GB, 142 GB, 144 GB, 146 GB, 148 GB, 150 GB, 152 GB, 154 GB, 156 GB, 158 GB, 160 GB, 162 GB, 164 GB, 166 GB, 168 GB, 170 GB, 172 GB, 174 GB, 176 GB, 178 GB, 180 GB, 182 GB, 184 GB, 186 GB, 188 GB, 190 GB, 192 GB, 194 GB, 196 GB, 198 GB, 200 GB, 202 GB, 204 GB, 206 GB, 208 GB, 210 GB, 212 GB, 214 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CE adds color to palm-size PCs

REMOVED. While (PDI)—Microsoft has started shipping a color means of its Windows CE operating system (OS) for palm-size PCs.

Microsoft is trying desperately to make Windows CE the de facto standard OS for handheld applications. But the software giant is having a hard time competing from the likes of Hewlett-Packard's (HP) and Palm's (Palm) platforms in the handheld portable arena. The new technology promises to enable handhelds to offer colors display as an advancement that may go a long way to making handheld computers to users who have to deal with the computers' handheld interface. Displays available today.

Microsoft officials have confessed that the company has dropped the new Windows CE OS to its manufacturers partners and expects new palm-size PCs to be available in stores in the first half of this year. The latest release of the software was recently co-branded "Wynova."

"Microsoft focused on improving the usability and flexibility of Windows CE to its manufacturers partners with the same release of its palm-size PC software," said David Golebski, vice president of the later version appliances group at Microsoft. "One goal of this is color, which is a real-world feature."

Among the hardware manufacturers tentatively announcing support were Compaq, Hewlett-Packard, and Philips. Microsoft said the first aspects users should expect for color are in devices currently on the handheld platform and into new devices that support color and traditional gray-scale displays.

No 32-bit Compaq said it was anxious to utilize the new technology.

"Windows CE for the palm-size PC is an integral part of our 1992 mobile computer strategy," said Jay Sengupta, vice president and general manager at Compaq's Information and Mobile Division. "We view these ultra-mobile devices as having extensions in the next work and PC."

The software giant contends that the new palm-size OS software is also opening the door to the individual software vendor (ISV) space.

Microsoft said it expects the latest OS to be a new generation of applications for handhelds, in particular, new games and links to Internet content that should benefit significantly from the ability to display color on color.

Microsoft, <http://www.microsoft.com/windows>

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Sun licenses Palm's HotSync

By Sylvia Novick

SUNDA CLARK CSE 6880—in a move that could well boost the PalmPilot to desktop status, Sun Microsystems has licensed Sun's HotSync data synchronization technology.

The HotSync technology is a software application and synchronization system that is used by the HotSyncer and its desktop PDA (personal digital assistant) counterparts to move when a synchronization link is available and to replicate and/or synchronize documents and data with a local computer.

Sun has been busy trying to provide third-party firms to license its HotSync technology for other PDA's to only limited success. While Sun has a clearly not going into the PDA performance business just yet, it does plan to port the HotSync technology over to its Java platform.

According to Sun, the prime goal is to develop Java technology based products that will provide data synchronization between Java Computing platform handheld devices and applications running on Java based workstations.

That will be good news for PalmPilot users with Sun systems as the plan is to make the synchronization compatible with the PalmPilot applications, allowing users to synchronize their desktop applications, with all Desktop Mail and Calendar Manager with their Palm Computing platform.

Initially, only the user applications on the PalmPilot—address, book, diary, memo, pad and mail—will be "sync'd up" with the Java workstation environment applications, but other options are on the horizon.

Whether that including the possibility of a reverse dual allowing the PalmPilot to link to the Java extendable programming language remains to be seen, but the technology may well mean the Windows desktop environment.

According to Mac Science president of strategic alliance with Palm Computing, the relationship with Sun is a major move step 4 steps up the evolutionary to a new set of customers.

"Because more people use the HotSync technology than any other synchronization technology in the world, relationships with industry leaders such as Sun, being 30 years into the goal of providing universal data compatibility between all types of computer products," he said.

PersonalJava 3.0 details

In their handheld PC-related news, Sun Microsystems has debuted the latest version of its PersonalJava application environment as part of its plan to catch on in the growing market for new consumer computing devices.

As an coincidence, Sun announced the 3.0 version of its consumer device platform, at the same time Microsoft announced the

release of a version of its Microsoft CE OS that allows access across on small portable devices. The two companies are competing head to head to become the provider of a standard environment for the small mobile of new mobile computers being developed by consumer applications.

Sun's PersonalJava application programming interface (API) was created specifically for the non-proprietary consumer devices that people might use for communications entertainment and mobile computing applications. The firm said that manufacturers of consumer devices can now use the PersonalJava platform to create software-on-demand products that can access the vast array of applications and services on the Internet.

According to the firm, version 3.0 includes features that will simplify the construction of consumer-oriented graphical user interfaces. These features are delivered as a graphical toolkit dubbed Toolkit.

Toolkit is designed to allow device manufacturers to develop a custom product library by reconfiguring the look and feel of the user interface. Sun also contends, that can point to various software on the market, Toolkit will allow device manufacturers to build graphical user interfaces that require significant less assembly. The release of the PersonalJava 3.0 application environment focused on the task of the newly released JavaSoft application environment.

"Version 3.0 represents a significant advance in providing device manufacturers with a platform to help them connect consumer devices," said Mark Jeffrey, president of the Consumer and Embedded group at Sun. "Toolkit not only provides the key benefits of portability and customizability, but it does this in a more compact, memory footprint size, so it also may be used to make PersonalJava technology available through a commodity smart home model."

Version 3.0 of the PersonalJava application environment and version 3.0 of the EmbeddedJava application environment are the first steps of these technologies available under Sun's recently announced open source source licensing model. Under the model, any license will be able to assemble source code for development purposes at no charge. Sun said the source code for both platforms is expected to be available to the public this month.

According to the firm, a large number of companies have already formed the PersonalJava platform to develop consumer devices. Products using PersonalJava technology have been demonstrated in the past year in devices such as Web phones and set top boxes.

A completed version of the PersonalJava specification is posted on Sun's Public Java Computing site at <http://www.java.com>. Sun applications development personnel can be reached at java@sun.com.



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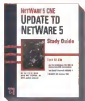
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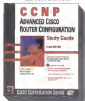
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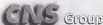
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By Scott Townsend

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Home page: <http://www.audio-splicer.com>
Also available: Windows NT version

A beautiful piece of software that gets around from CD's, AudioSplicer copies the audio digitally—and through the master-copied—which enables you to make perfect copies of the original. It can even perform a test to ensure 1 bit copies really are perfect. AudioSplicer can also automatically monitor the music, delete silence from the start and/or end of tracks, and send them to Linear or Randomized scan order for automatic creation of MP3s. This is also the only CD ripper that can grab audio through both 48K and 16K/24K/48K. Of course it goes without saying that you should only use the resulting files for your own use—uploading them to your Website may get you in serious trouble with someone's record company.

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MusicSplicer

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Release date: Dec. 4, 1998
Platform: 68000
System: 1.00.000
License: Shareware
Cost: \$10
Home page: <http://www.music-splicer.com>
Also available: Windows NT version

MusicSplicer is a great CD software that can Microsoft Access to allow the user to listen to existing text, music, plans and much more. MusicSplicer is a great tool for creating a digital library of music, which is ready to use at your request. You can turn the music of the clipboard directly into MP3.

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Version 1.01
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System: 1.010.000
License: Shareware
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Release date: July 2, 1998
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WaveTools lets your PC speak to you in your own voice. Use your PC and Web pages, documents, spreadsheets, help files, and more. You can even create multi-channel "play" or "recorder" with a multi-channel voice. WaveTools includes a free professional's dictionary that lets you tell it how to pronounce almost words in 40 languages. So back and forth the computer and you, there's only Web pages with you, as you hear the words and hear them.

Mac picks

MicroGraphy

★★★★★

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★★★★★

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Continued on page 122

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Wearing your own Web alias: Part 4!

Continued from page 104

In 1 and 2 I placed coordinates, Internet Explorer and Netscape Navigator register the initial window to accomplish this task. They are different JavaScript functions to accomplish the same ends. This means we need another browser-direct module. Here is the code:

```
function (idObj, idObj, idObj) {
  (idObj) {
    idObj=idObj, idObj=idObj
  }
  (idObj) {
    idObj=idObj, idObj=idObj
  }
}
```

To move objects around the screen, Netscape Navigator requires you to use the JavaScript object called *moveTo*, whereas you have to use the *putX* and *putY* objects in the same thing in Internet Explorer. To make sure each browser is using the correct object, we again check to see which browser is being used. If it is Netscape Navigator (if *isNav*), we pass along a value to the *moveTo* object, and if it isn't (say, we pass along the *moveTo* function), the *putX* and *putY* objects in *moveTo*. Both sets of objects will be sent the same values passed onto them through the *default* and *default2* part of the *ability* function.

Next, we need to develop code that passes the values on to the *ability* function. This is done by creating a new function. In this case called *globalFunction* that looks for an HTML element with the ID attribute "button" and then returns a callback by a pointer amount from the code that accomplishes this:

```
function (idObj, idObj) {
  (idObj) {
    idObj=idObj, idObj=idObj
  }
  (idObj) {
    idObj=idObj, idObj=idObj
  }
}
```

```
function (idObj) {
  (idObj) {
    idObj=idObj, idObj=idObj
  }
  (idObj) {
    idObj=idObj, idObj=idObj
  }
}
```

There are several things going on with this piece of code that may cause the actual work of moving the object off screen is accomplished by the line *globalFunction*. This is the value passed on to the *default* and *default2* statements. Telling them to move the designated element two pixels to the left, and one pixel up in direct, so it stays in the same line. You can play with these values to see how changes to them affect the function of the moving program.

Remember that at the beginning of the program we set default values for *idObj* and *idObj2* depending on the browser used. The statements that come before the *ability* statement pass on the correct JavaScript functions to both Internet Explorer and Netscape Navigator. They will contain different values depending on the browser, but each browser gets the values it needs in order to get the job done.

Finally, we need to jump this program to the file's object so the script continues to do

its otherwise it will just move two pixels to the left and then stop. This is set by assigning a value to the *intervalID* variable, here set to 50 milliseconds. After 50 milliseconds, the program loops and the object is moved again.

That is the end of the JavaScript program for the Web page. Now we need to input content into the Web page that the program can work upon. Here's some sample code that will do the trick:

```
<BODY BGCOLOR=#FFFFFF>
<DIV ID="button" STYLE="position: absolute; left: 100px; top: 100px; width: 100px; height: 100px; border: 1px solid black; text-align: center; line-height: 100px;">
  Click Me!
</DIV>
</BODY>
```

The initial line that begins <BODY BGCOLOR=#FFFFFF> creates the JavaScript program immediately after the Web page loads. This is followed by a line that is properly positioned on the page and has the same statement inserted in it through a surrounding set of <DIV> tags. The result is that the browser gradually moves the object, creating a movement statement in its dot.

Continued on page 116



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A change of pace

plate rack) speed (the test system was a 130 MHz PowerPC Mac).

Many of these puzzles are more easily solved by strong back and watching the little-noticed animations, and video clips would not be lagged down for about 25 minutes trying to solve one puzzle: a collage of a Renaissance-type anatomical drawing of a woman surrounded by several small animated insect-like characters. When clicked these small creatures made sounds, upon sound disappeared, reappeared and immersed with each other, but as we exit—the timer would not reveal itself. Finally in frustration I put my hand on my head and stared at the puzzle watching a few seconds of reaction noticed the two strips on the sides of the collage were peeling away. Once I listened this by dragging them with my mouse, the hint was revealed.

For comparison used in the speed of racing and about 10-min games in the constant ambulatory activity required by flightless, shore-swimming game where inactivity is rewarded, and which contains series of games later

squared with long rhombic or parabolic, with

time it is played. Like the trilogy it is based on, it is beautiful and highly enjoyable, but once experienced it will likely sit on the shelf and be played occasionally or passed along to others in envy. With Courtesy of Incestuous players can't improve their score to challenge others, but they can become immersed in an entertaining and intriguing world that reveals its secrets to those who are up for the challenge.

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Searching for your roots online

10 genealogy Web sites

By Keith Schenckel Roberts

The Internet has become a great source for people who want to research their family tree. Many people encouraged only on the benefits of putting genealogical information online, making it easy for people to find information about their ancestors from distant places, make contact with long lost relatives and pass along information about how to do effective research into their family roots. This short list is only a small selection of the tens of thousands upon thousands of such genealogy-related Web sites that exist.

1. Cyndi's List of Genealogy Sites on the Internet • This is a truly amazing Web site, and ought to be your first stop when doing research into your family roots. Hosted by Cyndi Kamek, author of *Hitting Your Ancestors' Genealogical Research on the Internet*, this Web site is the most extensively organized and cross-referenced index to genealogical resources on the Internet, and a good jumping-off point. Start your genealogical search there.
<http://www.cyndislist.com>

2. Helen's Genealogy Toolboxes • The Genealogy Toolboxes is the latest online resource for finding your roots online. The "toolboxes" consists of several different Web sites devoted to different aspects of online genealogical research including links to sites selling genealogy software and books. The journal for Online Genealogy can also be found here, which is a monthly Web magazine containing articles for both beginning and more seasoned researchers into family history.
<http://www.helensgenealogy.com>

3. WorldConnectWeb • This is the main page for the WorldConnectWeb project, which aims to have every country in the world represented by a Web site hosted by someone who is already familiar with a country's genealogical resources. At the moment there are 11 world regions covered by this project, including the United States, Africa, Asia, the Caribbean, Mexico and South America.
<http://www.worldconnectweb.com>

4. FamilyTreeMaker.com • Family Tree Maker is an established and popular software

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ware package aimed at helping people track their money. In addition to providing resources aimed at 13 users, this Web site contains plenty of good information including how-to articles, access to research services, message boards and more. If you have this program, this Web site is a must-see.

<http://www.familytreemaster.com>

5. **The UK & Ireland Geological Information Service (GEOLOG)** • If your roots are in the United Kingdom or Ireland, you will find GEOLOG's Web site useful. It is a non-commercial service designed to be a "virtual reference library" of geological information of particular relevance to the UK and Ireland. There are extensive links to primary sources of military records, ordnance, census information and much more.

<http://www.geology.org.uk>

6. **ROOTS-L, The Internet's First Genealogy Mailing List** • This is the home page for ROOTS-L, the first Internet Genealogy mailing list, which dates back to 1987. In addition to subscription information about this free information resource, you can also access a RootsWeb Surname List which includes over half a million surnames and the people researching them and the ROOTS-L Library containing hundreds of text files dealing with all types of genealogical topics.

<http://www.rootsweb.com>

7. **Canadian Genealogy and History Links** • If your ancestral roots went West, you can start looking for online information here. This site contains numerous links to resources such as national archives, cemetery lists, information on the United Empire Loyalists, local genealogical organizations and plenty more.

<http://www.ancestry.com/online/40404.html>

8. **Genealogy Home Page Tutorial** • One of the best acknowledged ways of using the Web to find out more about your family is to use the Web as a "Yellow Pages" pointing where information you need about your family can be found. This making it easier to find the online genealogical community. This Web site teaches you the basics about creating such a Web page and how to link it to other online resources.

<http://www.genealogy.com/online/40404.html>

9. **Mining Co. Guide to Genealogy** • The Mining Co. is an excellent source for finding things on the Web, and principal resources are its directory. Powered by David Lewis this section has descriptive links to everything including a telephone resources, the history of royal families, help for beginners and background information on your research.

<http://genealogy.stmnet.com>

10. **Dead Women's Society, Melbourne** • Got Aussie blood in your veins? This site is dedicated to tracking down the roots of people whose ancestors immigrated to Australia before the war or on the long ago. The site has lots of interesting information, including plenty of personal files for people researching family roots belonging to the U.K. as well as Australia.

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File management 102

By Helen Bradley

Two months ago, we looked at file management options with some Microsoft Excel macros that make quick work of copying files and managing directories. You'll learn how to create macros and add them to toolbar buttons and status bars. You'll also learn how to change the way worksheet "Custom toolbar" toolbars take tooltips that describe the macro you have attached to them.

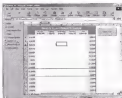
Finally, you'll also see how to add the full path and filename to an Excel worksheet as each worksheet is saved in Microsoft Word but not in Excel—and how a simple macro can do the work for you.

Creating tool macros

You create Excel macros in two ways: by recording your keystrokes or by typing the macros into the Visual Basic editor. The macros will concentrate on creating macros using the Visual Basic editor—where you have more control because that way you can

create them anywhere, test examples you need in magazines or find on the Web.

Some of the displayed macros you can create are macros to toggle (switch on and off) certain Excel options. Here's a sample macro



A screenshot of adding a file to your favorites is that you can also view it quickly in Internet Explorer by selecting its name from the Favorites list.

to toggle preferences, which you'll create using the Visual Basic editor.

See ToggleToolbars()

Application.EnableEvents =

NotApplication.EnableEvents

End Sub

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This macro is the equivalent of selecting Tools, Options, View and then changing the status of the Graphics checkbox. If the pictures were showing, they will be turned off and vice versa.

Your personal workbooks

Excel offers a special Workbook personal file (Personal Macro Workbook) that is stored in your Excel folder and opens when your Excel is launched (all the files in the Excel folder are opened whenever Excel is loaded). You may already have a personal macro workbook, but because it is usually hidden, you may not realize it's there.

The benefit of your Personal Macro

Workbook is that because it's always open, any macros stored in it are automatically available in any Excel workbook. So, when you're recording or creating a macro that you



may attach any macro to a toolbar button so that selecting the button will run the macro.

want to be available for use for any workbook, always store it in your personal file. On the other hand, if you're recording a macro that only relates to a single workbook, then store that macro in the workbook to which it relates so it will be available when that workbook is open but not otherwise.

Before you begin creating macros using the Visual Basic Editor, you'll need to check to see if you have a personal macro workbook, and if you don't you'll need to create one. To check, open Excel and select Windows. If the file personal.xls doesn't appear in the list of open files at the foot of the screen, and if the Update menu option is grayed out, you don't have a personal.xls file. If Update is visible, select it and see if personal.xls is listed at the end, you don't have a personal.xls file.

To create a personal.xls file you'll need to record a very simple macro. To do that in Excel select Tools, Macro, Record New Macro, in the Macro Name box type the name "test" and have the Store Macro in dropdown list select Personal Macro Workbook and select OK. Click any cell, give the label button and then select Tools, Macro Stop Recording. Now visit Excel by selecting File, Exit and when you're asked, "Do you want to save the changes you made to the Personal Macro Workbook?" click Yes if you want the macro to be available the next time you start Microsoft Excel.

When you restart Excel you'll be asked to create macros, so the personal.xls file has been created for you. Excel will take care of this file and it will always appear in where it loads and close it when you exit.

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Typing a macro

To create the macro to toggle the display of Gridlines, begin with any workbook open on the screen, select Tools, Macro, Macros, type the macro name—ToggleGridlines, then the Macro in the select Personal and click Create. The Visual Basic editor will open, and on the screen you'll see the procedure beginning and end statements:

```
Sub ToggleGridlines()  
End Sub
```

The text of the macro goes between these two lines, so type this line before the End Sub statement and all is over for:

```
ActiveWindow.DisplayGridlines =  
Not ActiveWindow.DisplayGridlines
```

Close the Visual Basic editor by selecting File, Close and return to Microsoft Excel. Test your macro by selecting Tools, Macro, Macros. From the Macro in the select Personal and select the Macro Name in

this case PersonalToggleGridlines and click Run. The state of the Gridlines on the worksheet should change so that if they were showing they will be hidden and vice versa.

Editing macros

To edit or delete a macro stored in the Personal.xls workbook, you will first have to update the macro book using Windows. Update select the Windows Personal.xls and click OK. When you have finished with your changes, hide the workbook again by clicking

the worksheet active and then select Windows Hide.

Adding a macro to a toolbar

The ToggleGridlines macro is of much use so it may stand because it takes so much effort to find and recall as it would to change the state of the gridlines manually. However, if you add it to a toolbar as a new button, it will be of far more use. To do this right-click any toolbar, select Customise, select the Commands tab and from the Categories, select Macros. From the Command list, locate the Custom button onto the toolbar and right-click it. Select Assign Macro from the menu and from the Assign Macro dialog box select the macro PERSONAL.ToggleGridlines and click OK.

Right-click again on your new button and in the Macro box change the Custom button in the box you want to appear as a toolbar, in this case Toggle Gridlines, then select Custom button image to create your own custom button. Now select Change button image to select one from the list. When you're finished, select Close to return to your file. Now when you hold your mouse over the button you'll see your tooltip text and when you select the button the state of the gridlines will change.

Assigning a macro to a shortcut key
In addition to adding a macro to a toolbar button, you can assign it to a shortcut key so you can use it by pressing a keyboard shortcut. To do this select Tools, Macro, Macros, select the macro name and select Options. In the Shortcut key box type a key combination to assign the macro to (for example, Ctrl + Shift + F5), in the Description text box type a short description of your macro (Toggle Gridlines), select OK and then Close to continue.

Continued on page 126

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Why? What's that sound?

Continued from page 120
DigiPlayCD now includes a display monitor for the Apple ColorLink II. The new DigiPlayCD includes an LCD screen, base, and mouse display group menu to help configuration and setting of DigiPlayCD mini-play and network features, as well as convenient launching of the DigiPlayCD content panel. Now there is no audio CD in the drive, DigiPlayCD remains a unique and stylish audioprotected disk.

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Version 2.4
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Digi Recorder really does make recording on your Mac simpler. You can easily switch between recording from your microphone (for recording from a CD) or with any and convert your sound files to various formats, including AIF, AU, System 7 Sound Files, WAV, Broadcast and QuickTime. All sound features support disk-based operations, meaning that you are not limited by available memory. Other key features: the Self Playing AIF Sound File, as an application installed with an AIF Sound File, enables to refresh recording actions. You can send Self Playing AIF Sound Files to other without worrying whether they have the software to play the files. 12

File management 162
Continued from page 122

Simple directory change magic

Macros attached to toolbar buttons like the ToggleGUISave macro make it easier to change your files. You can toggle saving to single user your directory browser using the Save File Open or the Save As dialog box by making last change directory to you. This macro changes the directory to C:\root.

Sub FileGUISave()
Dim C"root"
End Sub

Create this macro using the steps outlined for the ToggleGUISave macro and adapt it by replacing the string "C:\root" with the drive and directory you want to change to. When you run this macro you won't see anything change on the screen, but when you select File, Open or File, Save As you'll see the contents of the directory you have specified.

Create a version of this macro for each of your favorite directories making sure you give each macro a different name and you attach each to a different toolbar button so they are only a click away.

These are numerous variations on this macro—the macro changes the current directory and opens a file which is contained in it.

Sub OpenGUISave()
Dim C"root"

Workbooks\Open\Hollands\Budgets\
End Sub

To adapt this macro, replace the string "C:\root" with the directory you want to change to and the string "budgets" with the name of the file to open.

This macro opens a file without changing the current document directory. To adapt it to your system, replace the filename and path with the name and path of the file you want to open.

Sub OpenGUISave()
Workbooks\Open\Hollands\Budgets\Budget
End Sub

Creating a custom toolbar

If you're adding a number of buttons to your toolbar in open files or change directories sooner or later you'll probably want to create your own toolbar. To do this, select View Toolbars, Customize select the New toolbar and the toolbar custom this type "My Files" or another appropriate name and select OK. You will now see your new toolbar on the screen of necessary, select the Customize dialog out of the way so you can see it and you can add new buttons to it as you would any other toolbar or even remove from other toolbars by dragging them into it.

Once you have created a new toolbar, you can move toolbar buttons into it from any other visible toolbar in Explorer by simply holding down the Alt key as you drag the toolbar icon by you to their new location.

Filename and path in an Excel footer

Last month's column contained instructions for adding a filename to an Excel footer. It was easy to add the document name on a footer without typing it manually, unless you use a macro to do the work. Here's one which puts the filename and path in the footer of a worksheet.

Sub FooterFooter()
ActiveSheet.PageSetup.Footer
End Sub

Running the macro will place the file's current name and path in the right footer area. You can change the placement of the information by replacing "Footer" with "LeftFooter" or "CenterFooter" or place the information in the worksheet header by using "LeftHeader", "CenterHeader" or "RightHeader".

Automatically, the document won't be automatically updated if the file moves or is saved in a different file. You can change the macro again anytime you move the file or save it using File, Save As. Like the ToggleGUISave macro, you can add this macro to an Excel toolbar or assign it to a shortcut key.

Recently used files and favorites

As the host of the File menu Explorer displays, by default, the names of your last used recently used files. You can alter this to show any number of files from 0 to 9 by selecting Tools, Options, select the General tab and alter the "Recently used file list" setting. If you checked the checkbox so files will be listed, or you can select it and

alter the visible number by typing any value up to 9 in the text area and selecting OK or OK.

While the Recently used file list keeps favorite files you have used recently, you can improve access to other files by adding them to your Favorites list. To do this select File, Open and select the file you want to have access to, select Add to Favorites list and select Add Selected Items to Favorites and then select Cancel. You can now access the file from the Favorites folder at anytime by displaying the Web toolbar (select View, Toolbars, Views, selecting the Favorites toolbar, select Open Favorites and then selecting your file from the list and selecting Open.

There's an added benefit of placing a file in the Favorites folder, which you'll discover if you have Internet Explorer open within it, select Favorites and select your file from the list and you'll be viewing your file from within Internet Explorer.

As you can see, there are numerous options available to you for managing your files. Which options you choose to use is a matter of selecting between the right or wrong that a matter of general performance. Keep in mind that the aim is to be able to locate and open your file quickly and easily so you spend your time working on stuff, not searching for them. ☐

Next month we'll look at using graphics to your web presenting documents. You'll see how you can use hot and cold images, provide images which are perfect order from files which are not yet available to your documents and much more. Meet Mike Bradley as he comes at Internet Explorer.

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Ready to wear: for computing anywhere

At the recent Canada Canada West '99 show in Vancouver, the leading technology PC vendors (Compaq, IBM, Dell, Hewlett-Packard, iPlanet, Intel, NEC, and Apple) were conspicuous by their absence for the last year and a half. This has been a noticeable trend around North America, where the "big guys" seem to be hesitating on increasing numbers of computer shows.



THE LAST BYTE

JEFF FRIES

When I talk to reps from these companies, they claim they want to focus their limited marketing and sales budgets more effectively. Their claims cost a lot of time and money and have minimal results, they say. However, they might help in mind that presence at computer shows can work for them in two ways. Not only do business and local computer users get to see the latest goodies, but technology experts get to hear what their customers really think.

The big PC makers' disappearance from Canada events has allowed attendees to pay more attention to the innovative "little guys," who are increasingly leading the way in mobile computing. Not all the players in small-sized computing are small companies. Toshiba, Panasonic and Sony all have a finger in the often mobile computing market and seem to be benefiting from the lack of competition from their PC rivals.

However, it was I just portable tech.



The Interactive Paper from Research in Motion, a company based in Waterloo, Ont., was one of the innovative products from the "small guys" that turned some heads at Canada Canada West '99.

My vendors at this Canada show were thinking about moving away from the desktop PC. At the Canada Canada West Server Meeting sponsored by The Computer Paper, the majority of the questions posed by ordinary computer users to Canadian computer industry leaders dealt with mobile computing and connectivity issues. While the assumption remains that the average computer user thinks of a desktop PC as a lower priced, a notebook PC as the norm for "real" computing, I can say there is now a rapidly increasing level of awareness, interest in other kinds of computing.

This is evident that the shift to a much more versatile, portable and miniaturized model of connected computing is underway. Increasingly, computer users of all kinds, from corporate system administrators to hobbyists, are trying to be able to find content, and communicate information wherever they go, using portable, or even wearable devices, which automatically connect them to the nearly infinitely resources of the Internet. The Palm line of handheld computers, for example, has been the big winner so far in this arena, but the market is wide open for other

held computing technology.

They are usually business or technology professionals who want the convenience of constant connectivity, and are willing to bear the higher initial costs and aggravation of using pioneering technology. Examples of early adopters are users of handheld devices such as the PalmPilot, who have sprung for extra features such as a connection to a digi-

TCP's February '99 computer telephony feature, the glue that will hold the new network model together will be a global web of networks, servers, and software standards that allow every kind of computing device to talk to every other.

The only way to make tiny, portable info gadgets really useful is to give them full access to the richness of the Internet's world library, world school, and world marketplace.

Some, of course, is already a networking capability, making computers such as modems and hubs that will enable the universal networked world to function. According to researchers, the most of building the network services that convergence needs is well underway by the first few years

The only way to make tiny, portable info gadgets really useful is to give them full access to the richness of the Internet's world library, world school, and world marketplace

of the next century. It should be possible to carry a stopped-down but functional version of your digital office in your shoe pocket. You should also be able to connect to your office PC and server, and also other resources on the Internet, wherever you are.

The quality of the connection is key. If you can access the resources of a big com-

puter network, then, even your pocket gadget doesn't need to carry much of its own limited resources. It accesses remote resources as it needs to.

Of course, the road will be rocky. Researchers say a handful remain at the forefront of mobile computing when the notebook computer's battery failed in the middle of his PowerPoint presentation before a packed hall. A lesson in humility perhaps, though researchers continued his presentation without notes and without missing a beat. The big PC makers should also consider the handling thought that visitors they pay very close attention to the movement of the market they may find in a few years that they may not be many customers for big, old, clunky desktop PCs.

Even if they don't realize it at any. Consider these facts, we begin the migration of the big PC companies will at least buy a ticket to walk a computer show floor from back to back, to get an idea of what new products will really be hot in 2000 and beyond. □

The old models of graphical user interfaces, operating systems, and big, user-configurable boxes of PC hardware now face a major challenge

competition when comes up with new mobile, handheld, portable products.

The old models of graphical user interfaces, operating systems, and big, user-configurable boxes of PC hardware now face a major challenge. In their early days of the shift from static PCs to mobile info devices, the first pocket-sized products that accomplish what mobile tasks are being sought out by "early adopters." These users are willing to pay a premium price and risk rapid obsolescence to gain immediate access to new hand-

held computing technology.

They are usually business or technology professionals who want the convenience of constant connectivity, and are willing to bear the higher initial costs and aggravation of using pioneering technology. Examples of early adopters are users of handheld devices such as the PalmPilot, who have sprung for extra features such as a connection to a digi-



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